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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,078	04/10/2001	Ajit Chowdhury	780202.90075	8745

7590 05/05/2004

Bennett J. Berson  
Quarles & Brady LLP  
1 South Pinckney Street  
P O Box 2113  
Madison, WI 53701-2113

EXAMINER

LISH, PETER J

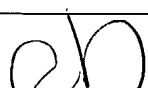
ART UNIT

PAPER NUMBER

1754

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/832,078	CHOWDHURY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Peter J Lish	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-19 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-19, 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 3/1/04 have been fully considered but they are not persuasive. Applicant argues that Stanforth teaches the formation of an iron oxidation product rather than the formation of metal chloropyromorphite. While it is true that the iron is introduced to form an oxidation product that encapsulates lead, Stanforth explicitly teaches the use of the phosphate and chloride additives to react with the lead to form the insoluble lead chloropyromorphite. The iron reaction, it is taught, can be done with the P/Cl treatment as a means of enhancing the treatment and decreasing the bioavailability of lead.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13, 15-19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanforth '133 in view of Pisani '773.

Stanforth '133 teaches that the availability of lead may be reduced by the formation of lead chloropyromorphite by the reaction with a phosphate, such as TSP, and a chloride under acidic conditions. Treatment using a combination of phosphate and chloride under acid conditions, a pH of less than 5, results in a reduced solubility for lead. However, unacceptable

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amounts of lead can still be available. In order to enhance the P/Cl treatment, the introduction of a ferrous ion into the soil will further reduce the availability of lead. Table 2 teaches the treatment of soil with the ferrous ion in addition to the chloride and phosphate ions under acidic conditions. The additives may be added in any form to the soil and water is subsequently added. Stanforth additionally teaches subsequent treatment of the soil with an acidic neutralizing compound, which include alkalis in the form of calcium carbonate, calcium hydroxide, calcium oxide, magnesium hydroxide, or magnesium oxide. This neutralization by alkali compounds further reduces the availability of the lead.

Stanforth teaches treatment of roadside soils. Thus, the recited temperatures in the claims for treatment with the various additives are encompassed by outdoor temperatures, which can generally range up to 50 °C. Column 5, lines 39-40, teaches adding the phosphate additive in the amount of 1 to 10% by weight of the soil. Table 1 teaches adding 0.3% chloride additive relative to the soil. Column 5, lines 10-15 teach adding 0.25-5% Fe compound relative to the soil. Column 5, lines 62 - column 6, line 1 teach adding the alkali compound in the amount of 0.5% to 10% by weight. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, in re Malagari, 182 USPQ 549.

Stanforth '133 does not specifically teach "incubating" the soil after adding the various additives. However, Pisani '773, in a similar process where TSP, along with other additives, is added to outdoor soil to reduce the availability of heavy metals, the soil is cured or "incubated" for seven days (see column 6, line 29). At the time the invention was made, it would have been

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obvious to one of ordinary skill in the art to cure or incubate the treated soil of Stanforth '133 because Pisani '773 teaches the use of an incubation period when treating lead contaminated soil with TSP, which is known to react with lead to form pyromorphite in a reaction equivalent to that relied upon by Stanforth.

Claims 1-13, 15-19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanforth '133 in view of Ruby et al. ("Advances in Evaluating the Oral Bioavailability of Inorganics in Soil...").

Stanforth '133 teaches that the availability of lead may be reduced by the formation of lead chloropyromorphite by the reaction with a phosphate, such as TSP, and a chloride under acidic conditions. Treatment using a combination of phosphate and chloride under acid conditions, a pH of less than 5, results in a reduced solubility for lead. However, unacceptable amounts of lead can still be available. In order to enhance the P/Cl treatment, the introduction of a ferrous ion into the soil will further reduce the availability of lead. Table 2 teaches the treatment of soil with the ferrous ion in addition to the chloride and phosphate ions under acidic conditions. The additives may be added in any form to the soil and water is subsequently added. Stanforth additionally teaches subsequent treatment of the soil with an acidic neutralizing compound, which include alkalis in the form of calcium carbonate, calcium hydroxide, calcium oxide, magnesium hydroxide, or magnesium oxide. This neutralization by alkali compounds further reduces the availability of the lead.

Stanforth teaches treatment of roadside soils. Thus, the recited temperatures in the claims for treatment with the various additives are encompassed by outdoor temperatures, which can

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Stanforth '133 does not specifically teach "incubating" the soil after adding the various additives. Ruby et al., however, teach that soils treated with phosphate (in the form of phosphoric acid) are incubated for various time periods ranging between 70 days and 18 months before testing. One test sample is incubated at 55°C for one year before testing. It is thus known in the art that the treatment of soil with phosphates to reduce the bioavailability of lead requires an incubation period of the soil in order to react with the phosphate and form pyromorphite complexes. Therefore, it would have been obvious to one of ordinary skill at the time of invention to provide an incubation period for the phosphate treated soil of Stanforth to react before testing the bioavailability of lead in the treated soil.

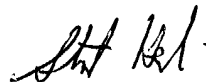
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 571-272-1354. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PL

STUART L. HENDRICKSON  
PRIMARY EXAMINER